REMARKS

I. Introduction

Applicants submit the present *Response After Final* in response to the Final Office Action mailed October 16, 2008 (the "Final Action"). Applicants sincerely appreciate the allowance of Claims 4-8, 12, 14, 34-45 and 47. Claims 2-3 and 9-11 remain rejected. Applicants respectfully request reconsideration and withdrawal of these rejections for the reasons discussed below.

II. The Claim Rejections

Claims 2-3 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Publication No. 2002/0190294 to Iizuka et al. ("Iizuka"). Claims 9-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Iizuka. Applicants respectfully submit that the cited portions of Iizuka clearly fail to disclose all of the recitations of Claim 2, as Applicants show in the following remarks. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections of Claims 2-3 and 9-11.

Claim 2 recites:

> 2. A method of fabricating a capacitor, the method comprising:
>
> forming a lower electrode on a substrate;
>
> **forming a dielectric layer on the lower electrode**; and
>
> forming an upper electrode on the dielectric layer to provide a capacitor that comprises the lower electrode, the dielectric layer and the upper electrode;
>
> wherein **forming the lower electrode on the substrate comprises at least forming a ruthenium seed layer using atomic layer deposition on the substrate and forming a main ruthenium layer on the ruthenium seed layer** using chemical vapor deposition.

In rejecting Claim 2, the Final Action takes the position that layer 34 of FIGS. 9I-9N of Iizuka corresponds to the ruthenium seed layer portion of the lower electrode of Claim 2, that layer 35 of FIGS. 9I-9N of Iizuka corresponds to the dielectric layer of Claim 2, and that layer 36a of FIGS. 9I-9N of Iizuka corresponds to the upper electrode of Iizuka. (Final Action at 2). Furthermore, the Final Action takes the position that layer 36a of FIGS. 9I-9N

of Iizuka also corresponds to the main ruthenium layer portion of the lower electrode of Claim 2. (Final Action at 2). Applicants respectfully submit that Iizuka, as interpreted in the Final Action, clearly fails to disclose at least two (2) of the recitations of Claim 2, and hence fails to anticipate Claim 2 under 35 U.S.C. § 102(e).

First, the rejection of Claim 2 interprets layer 36a of FIGS. 9I-9N of Iizuka as corresponding to **both** the upper electrode of Claim 2 **and** the main ruthenium layer portion of the lower electrode of Claim 2. However, as is well understood to those of skill in the art, **the same layer cannot act as both the lower electrode and the upper electrode of a capacitor,** as such a structure would not function as a capacitor. As such, the layers identified in the Final Action as forming the lower electrode, dielectric layer and upper electrode of Claim 2 do **not** "provide a capacitor that comprises the lower electrode, the dielectric layer and the upper electrode" as is expressly required by Claim 2. Moreover, one of ordinary skill in the art would also understand that layer 36a of the capacitor of Iizuka cannot physically perform as both the upper electrode and part of the lower electrode of the same capacitor. Thus, to the extent that layer 36a of Iizuka as interpreted as comprising the upper electrode of Claim 2, then Iizuka fails to disclose or suggest a lower electrode of the capacitor that includes both a ruthenium seed layer and a main ruthenium layer. Alternatively, if layer 36a of Iizuka is interpreted as comprising the main ruthenium layer portion of the lower electrode, then Iizuka fails to disclose or suggest the upper electrode of Claim 2.

Second, Claim 2 recites "forming a dielectric layer on the lower electrode." It is axiomatic that the **lower electrode must exist** for one to be able to "form[] a dielectric layer on the lower electrode" as is recited in Claim 2. However, as is readily apparent from FIG. 9I and paragraph 0100 of Iizuka, layer 36a of Iizuka – which the Final Action identifies as comprising part of the lower electrode – is not formed until **after** the dielectric layer 35 is formed:

> As shown in FIG. 9I, by using the ALD apparatus, a lower electrode metal **34** of TiN, a capacitor dielectric film **35** of ZrO_2 and an upper electrode metal **36a** of TiN are continuously **formed in the named order** . . .

(Iizuka at ¶ 0100) (emphasis added). As such, the capacitor formation method of Iizuka that is set forth in the Final Action does not disclose "forming a dielectric layer on the lower electrode" as Iizuka expressly teaches that layer 36a – which the Final Action contends is part of the lower electrode – **is not formed until after** the dielectric layer is formed.

Applicants thus respectfully submit that Iizuka, as interpreted in the Final Action, clearly fails to disclose at least two of the recitations of Claim 2, and hence fails to anticipate Claims 2 under 35 U.S.C. § 102. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of Claim 2.

Claims 3 and 9-11 each depend from Claim 2, and hence are patentable over Iizuka at least as depending from a patentable base claim.

III. Conclusion

For the above reasons, Applicants respectfully submit that the present application is in condition for allowance, which is respectfully requested.

Respectfully submitted,

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CERTIFICATION OF TRANSMISSION

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4) to the U.S. Patent and Trademark Office on November 18, 2008.

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